It would seem to us, accepting the writer's own account of his intention, that the requirements neither of the student nor of the practical optician have been kept sufficiently clearly in view. It is probably rather to the amateur who wishes to acquire an intelligent appreciation of the main principles of construction of the more important optical instruments that the book will appeal. The practical optician is daily confronted with problems towards the solution of which he will here find little help, while the student who looks for an introduction to the subject will scarcely do well to acquire the elements of optics from a work in which the necessary mathematics are so entirely kept out of sight. For the general reader the volume presents many excellent features, yet even to him we would prefer to recommend Moritz von Rohr's admirable little book, "Die optischen Instrumente," which provides for the non-mathematician a very considerable amount of information in the smallest compass.

For the rest, the matter is carefully arranged and the explanations of technical points clearly and simply given. The usual portions of the subject are included—the elementary theory of mirrors, prisms and lenses, the optics of the eye, the microscope, telescope, and the photographic lens. There is a chapter also on stereoscopy, in which some of the modern developments are shortly treated. The variable power telescope receives rather more attention than is usual. Tables are given for the calculation of achromatic lenses and of prism combinations, and throughout the book attention has been paid to the furnishing of numerical data. These, however, might easily be rendered more complete—*e.g.* particulars as to the field of view obtainable at various powers in telescopes of different pattern would be of value. Complete data are provided for the construction of certain well-known combinations, direct-vision prisms, eyepieces, microscope objectives, photographic lenses, &c. The provision of numerical information is, indeed, the most characteristic feature of the book, and will render it of value for occasional reference to some who are already familiar with the author's presentment of the optical theory.

OUR BOOK SHELF.

Die Eisenindustrie. By Oskar Simmersbach. Pp. x+322. (Leipzig and Berlin: B. G. Teubner, 1906.) Price 7.20 marks.

IN German technical literature there are excellent exhaustive treatises on the metallurgy of iron, and students' manuals exist in abundance, but Mr. Simmersbach's work on the economics of the iron trade opens up an entirely new field. The leading principles and practices of the German iron trade are made clear, and a careful study of the information set forth cannot fail to prevent much waste of time and misapplication of energy in the conduct of business. The various chapters are well worthy of attentive study, and the book should find a place in the library of all who have any connection with the iron industry.

The first eight chapters give a concise introduction to the technology of iron and steel. They deal respectively with iron and its alloys, raw materials, blast-furnace practice, steelworks practice, rolling mills, testing of iron and steel, foundry practice, and the testing of cast iron and cast steel. The remaining seven chapters, dealing with the economics of iron and steel, are of greater interest. A general sketch of the importance of the world's iron trade is followed by chapters on the world's ore trade, the world's coal and coke trade, the world's pig-iron trade, the world's trade in castings, and the world's trade in malleable iron and steel. The final chapter deals with labour conditions and customs tariffs. The author takes an exceedingly optimistic view of the German coal and iron-ore resources. Germany is, he thinks, richer in iron ores than the rest of the Continental countries put together, and he explains the annual importation of more than six million tons of foreign ores as being the outcome of high railway charges. At the present rate of coal consumption there is, he believes, enough coal in Germany still unworked to last for 3520 years. These figures contrast strongly with his pessimistic views of the available resources of other countries. Prophecies as to the future of the world's iron trade are, however, of little moment.

The chief value of the author's work is in the abundance of admirably arranged statistical material regarding the present condition of the iron and steel industries, and in the evidence amply afforded of the manner in which science has superseded the old rule-of-thumb methods of carrying on operations at iron and steel works. A chapter on trusts, cartels, and syndicates would have been a useful addition to the work, and the absence of an index is to be deplored.

A Text-book of Fungi. By G. Massee. Pp. xi+427. (London: Duckworth and Co., 1906.) Price 6*s.* net.

THE fungi constitute numerically the most extensive group of plants, and at the same time they present the largest number of unsolved problems; this, too, despite the fact that, as the author says, our knowledge has increased by leaps and bounds.

Mr. Massee plunges at once *in medias res,* and proceeds to describe modern cytological developments, their legitimate and strained applications, and certain lines of inquiry pursued by Marshall Ward. Recent work has widened our knowledge of conidia, spores of various kinds, and other methods of reproduction. The author has introduced the salient facts both of sexual and asexual reproduction, but fails to offer a logical definition or a practical limitation of the terms spore, sporophore, &c. The chapter on sexual reproduction contains useful summaries of Blakeslee's account of the Mucorineæ, Thaxter's investigations of the Laboulbeniaceæ, as well as Dangeard's and Blackman's researches. The author's views on parasitism in fungi are set forth, and reference is made to experiments on similar lines by Miss Gibson and Mr. E. S. Salmon, the latter of whom has contributed the chapter on "biologic forms." Closely allied with the spread of disease, which provides the opportunity for noting the insidious danger of hibernating mycelium, is the subject of legislation. Mr. Massee enunciates his arguments, which are mainly to show that, unless it is exceedingly drastic, legislation to prevent the introduction of plant diseases through imported plants and seeds would be useless.

On the subject of classification, the opinion of the author as an acknowledged exponent is especially valuable, and the reader will find clear, and we think convincing, reasoning in favour of the acceptation of Brefeld's main groupings. The personal views on phylogeny appearing earlier in the book should be

consulted in this connection. The treatment of the families is necessarily brief, but a good working basis for amplification is provided, and the last four sections, dealing with the anomalous order of Deuteromycetes, will be particularly useful to economic botanists.

The author claims to have provided an introduction to new lines of research. This is modestly expressed, for it will be found that, besides furnishing such an introduction, he has performed the additional service of discussing in a broad spirit their significance and interpretation; further, he has touched on most aspects of fungology, although not on the association of fungi in lichens, and has outlined the taxonomy of the group with a view to practical utility. In fact, Mr. Massee has supplied a serviceable and much required text-book on the present state of fungology which is embellished with numerous artistic and practical illustrations.

Douglas English Nature Books. No. 1, *One Hundred Photographs from Life of the Shrew-mouse, the Dormouse, the House-mouse, the Field-mouse, the Meadow-mouse, and the Harvest-mouse.* By Douglas English. Pp. 93. No. 2, *One Hundred Photographs of Bird Life.* By R. B. Lodge. Pp. 95. Illustrated. (London: S. H. Bousfield and Co., Ltd., 1906.) Price 1*s.* each.

SINCE no less than sixty-four out of the ninety odd pages which go to form each of these volumes are devoted to reproductions of photographs of mammals and birds in their native haunts, the lover of animal life has a rich entertainment at a very small cost. As we learn from the introduction to the first, this series of books is intended for the pocket of the field-naturalist, and it is hoped that while the illustrations (which are almost beyond praise) will aid in the recognition of species, the letterpress will be of service alike in confirming previous observations and in suggesting new lines of inquiry. The series is intended to be comprehensive in scope. In the first part, which is devoted to some of the smaller British mammals, it is satisfactory to find a reversion to the use of popular names like water-rat, field-mouse, and shrew-mouse, in place of the spurious terms water-vole, field-vole, and shrew. In the second number Mr. R. B. Lodge gives one hundred photographs of bird-life, with appropriate notes. Since, however, the illustrations include species like the glossy ibis, little egret, and spoon-bill, it is rather difficult to see what they have to do with the ordinary field-naturalist. R. L.

Gold Mining Machinery: its Selection, Arrangement, and Installation. By W. H. Tinney. Pp. xii+308. (London: Crosby Lockwood and Son, 1906.)

THIS book professes to be "a practical handbook for the use of mine-managers and engineers" to assist them in the "selection, arrangement and installation" of gold-mining machinery. Such a work properly executed would doubtless perform a useful function; but Mr. Tinney's production fails in its purpose for it is out of date and superficial. For example, winding machinery, which should surely be one of the most important sections of a work such as this purports to be, is dealt with in seven pages of letterpress, and, as may well be imagined, the modern high-class winding engine finds no place in it. Deep winding, the greatest problem at present engaging the attention of the mechanical engineers of the Witwatersrand goldfields, is passed over in silence. Again, the electrical transmission of power, a subject of vast and ever-growing importance to the miner, is dismissed in four pages of letterpress.

It may well be asked, of what are the 300 pages of this book made up? The work appears to consist of a jumble of extracts from the note-book of the author (whose experience of the gold mines of the world would seem to have been somewhat limited), together with specifications of machinery makers, illustrated by a selection of photographs from their catalogues. To this *olla podrida* has been added a number of workshop receipts and various elementary tables, such as "the sizes of drawing paper," and formulæ for calculating the areas of a circle, a triangle, a square, &c., and the volume of a cube, a sphere, a cylinder, &c. One of the tables gives the "names, common and chemical," of a list of substances, beginning with "aqua fortis" and ending with oil of vitriol, and including such rare materials as chalk, iron pyrites, rust, slaked lime, salt, and soda.

Memories of the Months. Fourth Series. By the Right Hon. Sir Herbert Maxwell, Bart., F.R.S. Pp. x+319. (London: Edward Arnold, 1907.) Price 7*s.* 6*d.*

SIR HERBERT MAXWELL'S new volume will be welcomed by the many readers of his previous series of "memories." The ability to combine literary grace with scientific accuracy, and the power to interest and at the same time to impart useful information, is unfortunately rare, and we are grateful to Sir Herbert Maxwell for placing his gifts at the disposal of a large audience by means of these pages. Readers will be able to share with the author of the memories his "delight in the open field, the woodland, and the riverside," and if they prove willing disciples they may in time experience the joy of original observation for themselves—at least they will learn to study and appreciate the boundless beauties of nature.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

On the Relationship of Lemurs and Apes.

ACCORDING to the report published in NATURE (April 11, p. 574), Mr. H. F. Standing recently presented a memoir to the Zoological Society in which he described certain extinct lemuroids from Madagascar as being, "in many respects, intermediate between existing lemurs and monkeys," and, as the result of this interpretation of the anatomy of these animals, he expressed the view "that it was not possible to separate the Primates, as hitherto, into the two suborders Lemuroidea and Anthropoidea."

At the suggestion of Dr. A. Smith Woodward, Mr. Standing kindly sent me casts of the cranial cavities of three of the Prosimiæ found by him, and in January last I sent him a report in which their outstanding features and the inferences to be drawn from them were set forth. My conclusions not only lent no support to the above-quoted summary of Mr. Standing's opinions, but are in direct conflict with them. But I would not have deemed it necessary to repeat these statements, already made in my report (which I presume will be published along with Mr. Standing's memoir), had it not been for the fact that, since my report was written, further investigations (chiefly histological studies in the structure of the neopallium of Tarsius, Loris, Nycticebus, Perodicticus, Lemur, Propithecus, Hapale, Cebus, and Cercopithecus) have revealed important facts that enable me to speak more emphatically on the old problem once more raised